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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,729	05/11/2001	Christian Francois Michel Dujarric	208536US2	5224
22850	7590	09/20/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			FIELDS, COURTNEY D	
			ART UNIT	PAPER NUMBER
			2137	
DATE MAILED: 09/20/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

5

Office Action Summary

Application No.

09/852,729

Applicant(s)

DUJARRIC, CHRISTIAN  
FRANCOIS MICHEL

Examiner

Courtney D. Fields

Art Unit

2137

14

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claim 3 has been amended.
2. Claims 1-20 are pending.

***Response to Amendment***

3. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al. (US Patent No. 6,429,808) in view of Clark (US Patent No. 5,982,897).

Referring to the rejection of claims 1, 15, and 19, King et al. discloses a method and system for satellite positioning using positioning signals which are sent out by the various satellites of a satellite constellation under the control of a set of ground stations from which the satellites receive control signals, and which are available to be picked up by individual user receivers, comprising:

emitting from the set of ground stations periodically renewed direct transformation functions which are addressed respectively to each satellite of the satellite constellation (See Column 4, lines 43-67, Column 5, lines 1-13, Column 8, lines 45-52)

and applying the direct transformation function received by each satellite to encode the positioning signals emitted therefrom (See Column 6, lines 1-15, Column 8, lines 35-47)

and further upon each request from a user receiver addressed to a user servicing station (See Column 6, lines 16-26)

However, King et al. fails to explicitly disclose verifying the user to have a privileged- user status and reverse/inverse transformation functions for decoding information. Clark discloses verifying that it has right to a privileged-user status and in the event that the verification is positive, addressing to the user receiver reverse transformation functions that are the satellites from which it receives positioning signals, whereby the reverse transformation functions constitute an interpretation key for interpreting the positioning signals by applying the reverse transformation functions for decoding them in Column 6, lines 29-52. Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to improve King et al.'s GPS integrity method by combining Clark's denial of encrypted high precision data system. Furthermore, one of ordinary skill in the art would have been motivated to do this since, a need exists for a secure method and system that uses a complex secret sharing of keys from corresponding GPS satellites in order to gain access to high precision data within each satellite. (See Clark, Column 2, lines 46-52)

As per claim 4, (King et al. as modified by Clark) discloses the claimed limitation wherein supplying an encryption code to the user during a mission declaration by this user, and wherein the user servicing station receiving the request uses the encryption

code to send the interpretation key to the user receiver (See Clark, Column 7, lines 1-14)

As per claim 5, (King et al. as modified by Clark) discloses the claimed limitation wherein the encryption code is used for an authentication process carried out by the privileged-user receiver by comparison between the signal carrying the interpretation key received from the user servicing station in response to the request and the encryption code, the latter being known to the privileged user in (See Clark, Column 6, lines 33-39)

As per claim 6, (King et al. as modified by Clark) discloses the claimed limitation wherein comprising a preliminary stage of invoicing the user benefiting from the privileged-user status (See Clark, Column 6, lines 39-43)

As per claim 7, (King et al. as modified by Clark) discloses the claimed limitation wherein in order to ensure verification of authenticity and integrity of the positioning signals interpreted, a comparison is carried out by the privileged-user receiver between the signals received from the satellites and the signals received from the services station processing the request, in order thereby to verify the presence of the same specific fragment respectively accompanying the positioning signals sent out by each satellite and the interpretation key addressed to the user receiver in response to its request (See Clark, Column 5, lines 57-63, Column 6, lines 28-43)

As per claim 8, (King et al. as modified by Clark) discloses the claimed limitation wherein:

including in each request calling for the interpretation key sent by the privileged-user receiver, a copy of the latest positioning signals received by the receiver in their transformed form (See Clark, Column 6, lines 29-43)

decoding at the ground stations the transformed positioning signals included in the request, and deducing the position of the receiver therefrom (See Clark, Column 6, lines 44-64)

calculating a degree of precision of the positioning signals as a function of the deduced position and/or of the operational state of the system (See Clark, Column 7, lines 50-67)

and addressing to the receiver an information of the degree of precision thus calculated (See Clark, Column 8, lines 1-5)

As per claim 9, (King et al. as modified by Clark) discloses the claimed limitation wherein each request originating from a plurality of user receivers includes a copy of the latest coded positioning signals received by the receivers, and further comprising decoding the transformed positioning signals included in each request, deducing therefrom the positions of the various corresponding receivers, and addressing to at least some of the user receivers a position information relating to other users among the plurality (See Clark, Column 7, lines 1-33)

As per claim 10, (King et al. as modified by Clark) discloses the claimed limitation wherein each request originating from a plurality of user receivers includes a copy of the latest coded positioning signals received by the receivers, and further comprising decoding the transformed positioning signals included in each request deducing

therefrom the positions of the various corresponding receivers, and addressing to a traffic control service a position information relating to the position of at least some of the user receivers among the plurality (See Clark, Column 5, lines 16-26)

As per claim 11, (King et al. as modified by Clark) discloses the claimed limitation wherein a basic interpretation key is delivered to any user having a right to at least a first degree of precision in interpreting the positioning signals, and a supplementary interpretation key granting access to a higher-level quality of service, especially via a better degree of precision, is reserved for the users having the benefit of a second privilege (See Clark, Column 4, lines 45-65)

As per claim 12, (King et al. as modified by Clark) discloses the claimed limitation wherein each transformation function participating in the definition of the interpretation key is announced to the user servicing stations with an advance in time with respect to its application to the positioning signals sent out by the corresponding satellite (See Clark, Column 7, lines 50-67, Column 8, lines 1-30)

As per claim 13, (King et al. as modified by Clark) discloses the claimed limitation wherein the request signal for the interpretation key sent out by the user receiver and intended for a user servicing station comprises a copy of the positioning signals emitted from a plurality of satellites as received by the user receiver, and wherein the signals thus recopied are processed by the user servicing station applying to them the interpretation key to determine the position of the user receiver for use for recognition of the privileged-user status or for any other monitoring purpose (See Clark, Column 5, lines 45-56, Column 6, lines 28-53)

As per claim 14, (King et al. as modified by Clark) discloses the claimed limitation wherein comprising acquiring again positioning signals by the user receiver from the plurality of satellites after reception of the interpretation key constituted by the set of relevant reverse transformation functions, and applying the latter to the positioning signals newly acquired, and deducing therefrom a new position information, thereby avoiding that movement of the receiver during the propagation of the signals and the processing of the requests result in reducing the precision of the position information (See Clark, Column 4, lines 11-20)

As per claim 16, (King et al. as modified by Clark) discloses the claimed limitation wherein each privileged-user receiver further comprises means for receiving the interpretation key addressed to it from the services station in response to its request, and from the services station in response to its request, and calculating means for combining the positioning signals with the interpretation key and deducing therefrom the position information (See Clark, Column 7, lines 50-67, Column 8, lines 1-5)

As per claim 17, (King et al. as modified by Clark) discloses the claimed limitation wherein the interpretation key consists of defined reverse transformation functions which are the inverse of direct transformation functions applied respectively by the various satellites within range of the user receiver for emitting the positioning signals sent therefrom (See Clark, Column 5, lines 36-44)

As per claim 18, (King et al. as modified by Clark) discloses the claimed limitation wherein:



means for generating the direct transformation functions to be applied at the satellites for deriving the positioning signals and addressing them to the various satellites for which they are respectively intended, in addition to the usual control signals such as their orbital parameters and synchronization information (See Clark, Column 4, lines 33-65)

and means for calculating the reverse transformation functions and for broadcasting them any user servicing station within the system for using them in deriving and transmitting the interpretation key necessary to each user receiver sending a request to that effect, subject to the verification that the corresponding user is allowed the privileged-user status (See Clark, Column 6, lines 44-64, Column 7, lines 50-67)

As per claim 20, (King et al. as modified by Clark) discloses the claimed limitation wherein means for automatically repeating the emission of the request signal with a predefined periodicity (See Clark, Column 8, lines 9-43)

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al. (US Patent No. 6,429,808) and Clark (US Patent No. 5,982,897) as applied to claim 1 above, and further in view of Knockeart et al. (US Patent No. 6,621,452).

As per claim 1, King et al. in view of Clark discloses the invention as substantially claimed. However, the combination of King et al. in view of Clark does not teach the features of a copy of a route plan, the latest coded positioning signal, and identifier code for designating a declared mission.

As per claim 2, Knockeart et al. discloses the claimed limitation wherein:

a prior stage of registering a mission declaration comprising a route plan to be followed by the user (See Column 8, lines 8-14)

each request from a user receiver calling for the interpretation key includes a copy of the latest coded positioning signals it has picked up from the satellites (See Column 15, lines 13-25)

and the verification of the privileged-user status comprises the sub-stages consisting in decoding the coded positioning signals included in the request, in deducing therefrom the position of the receiver and in verifying that this position is in conformity with the route plan (See Column 17, lines 54-62)

As per claim 3, Knockeart et al. discloses the claimed limitation wherein an identifier code which designates the user for a declared mission is supplied to the user during a mission declaration by this user, and wherein the identifier is broadcast to various user servicing stations to which the user receiver is likely to address a request calling for the interpretation key (See Column 41, lines 29-61)

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to combine Knockeart et al.'s teaching regarding the vehicle information of GPS satellites at the time data is sent with the method of the

combination of King et al.'s GPS integrity method in view of Clark's denial of encrypted high precision data system. In the resulting combination, the method would validate the destination to a server system and compute a route plan for the user to declare a mission. (See Knockeart, Abstract and Column 3, lines 55-65)

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Murphy (US Patent No. 6,317,500) discloses the method and apparatus for location-sensitive decryption of encrypted satellite signals.

Brockman (US Patent No. 5,113,443) discloses the method for scrambling satellite communications.

DeLuca et al. (US Patent No. 5,612,682) discloses the method and apparatus for controlling communication operated by a service provider of portable devices.

Bodin (US Patent No. 5,987,139) discloses a method for encryption of base stations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney D. Fields whose telephone number is 571-272-3871. The examiner can normally be reached on Mon - Thurs. 6:00 - 4:00 pm; off every Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on 571-272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2137

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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September 14, 2005

*Emmanuel L. Moise*  
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**SUPERVISORY PATENT EXAMINER**